

Notice of Allowability

Application No.

10/715,966

Examiner

Eric Wong

Applicant(s)

NORDIN ET AL.

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to application filed 11/18/03.
2. ☒ The allowed claim(s) is/are 1-34.
3. ☒ The drawings filed on 18 November 2003 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Andrew Spence on 3/18/04.

The application has been amended as follows:

1. (Currently amended) A waveguide assembly comprising:
a non-photonic crystal waveguide region comprising:
a longitudinally extending core, wherein the core includes an input channel and at least one output channel; and
a cladding [at least partially] surrounding the core for confining signals within the core; and
at least one photonic crystal (PhC) region extending laterally through at least a portion of the core to at least partially direct signals propagating through the core.
13. (Currently amended) A waveguide assembly comprising:
a non-photonic crystal waveguide region including a longitudinally extending core; and
at least one photonic crystal (PhC) region extending laterally through at least a portion of the core to at least partially direct signals propagating through the core, wherein the signals are capable of having a wavelength outside a band gap of the at least one PhC region.
24. (Currently amended) A waveguide assembly comprising:

Art Unit: 2874

a non-photonic crystal waveguide region; and

at least one photonic crystal (PhC) region extending laterally through at least a portion of the waveguide region to at least partially direct signals propagating through the waveguide region, wherein the at least one PhC region extends laterally through at least a portion of the waveguide region such that the at least one PhC region is further capable of covering the incident light mode width of a signal propagating through the waveguide region.


2. The following is an examiner's statement of reasons for allowance: The prior art made of record fails to explicitly disclose or reasonably suggest a non-photonic crystal waveguide having a core and a photonic crystal region laterally extending through the core to direct light.

Kurosawa discloses a compact optical waveguide but fails to explicitly disclose a full cladding region and at least one photonic crystal region that extends laterally through said cladding into the core. Cotteverte et al., Parker et al., and Sugitatsu only discloses a waveguide region inside a photonic crystal structure. Therefore claims 1-34 are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

-  a. United States Patent Application 2003/0174961 to Hamada ~~et al.~~ for an optical beam splitter which uses photonic crystals.

Art Unit: 2874

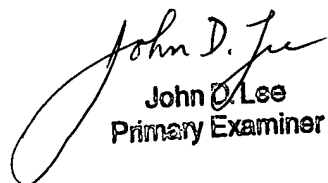
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Wong whose telephone number is 571-272-2363. The examiner can normally be reached on Monday through Friday, 830AM - 430PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



EW



John D. Lee
Primary Examiner